

U.S. Patent Application No. 10/770,895  
Amendment dated April 24, 2006  
Reply to Office Action of November 22, 2005

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**IN THE CLAIMS:**

Claims 1-27 (Cancelled)

Claim 28 (Currently amended): A niobium powder having a carbon content of from about 40 ppm to about 200 ppm and a iron, nickel, and chromium content of from about 5 ppm to about 200 ppm, wherein said niobium powder has a flow of greater than 80 mg/s; and

wherein said niobium powder is agglomerated and has a Scott density of less than about 35 g/in<sup>3</sup>; or

wherein said niobium powder is unagglomerated and has a Scott density of less than about 12 g/in<sup>3</sup>.

Claim 29 (Original): The niobium powder of claim 28, wherein said carbon amount is from about 50 to about 150 ppm.

Claim 30 (Currently amended): A niobium powder having a carbon amount of from about 40 to about 200 ppm when the BET surface area is about 1.0 m<sup>2</sup>/g and a carbon amount of less than 250 ppm when the BET surface area of the niobium powder is from about 2 to about 4.5 m<sup>2</sup>/g and the combined amount of Fe/Ni/Cr is less than 100 ppm when the BET surface area of the niobium powder is about 1.0 m<sup>2</sup>/g and less than about 400 ppm when the BET surface area of the niobium powder is from about 2.0 m<sup>2</sup>/g to about 4.5 m<sup>2</sup>/g;

wherein said niobium powder is agglomerated and has a Scott density of less than about 35 g/in<sup>3</sup>; or

wherein said niobium powder is unagglomerated and has a Scott density of less than about 12 g/in<sup>3</sup>.

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Claim 31 (Original): A capacitor anode comprising the niobium powder of claim 28.

Claim 32 (Original): A capacitor anode comprising the niobium powder of claim 29.

Claim 33 (Original): A capacitor anode comprising the niobium powder of claim 30.

Claim 34-43 (Cancelled)

Claim 44 (Previously presented): The niobium powder of claim 28, wherein said niobium powder is flaked.

Claim 45 (Previously presented): The niobium powder of claim 30, wherein said niobium powder is flaked.

Claim 46 (Previously presented): The niobium powder of claim 28, wherein said niobium powder has a BET surface area of from about 1.0 m<sup>2</sup>/g to about 4.5 m<sup>2</sup>/g.

Claim 47 (Previously presented): The niobium powder of claim 28, wherein said niobium powder has a BET surface area of at least 0.15 m<sup>2</sup>/g.

Claim 48 (Previously presented): The niobium powder of claim 28, wherein said niobium powder further comprises oxygen, phosphorous, or both.

Claim 49 (Previously presented): The niobium powder of claim 28, wherein said niobium powder is agglomerated.

Claim 50 (Canceled)

Claim 51 (Canceled)

Claim 52 (Currently amended): The niobium powder of claim 28 30, wherein said niobium powder has a flow of greater than 80 mg/s.

Claim 53 (Currently amended): The niobium powder of claim 28, wherein ~~after milling~~, the niobium powder has a flow of from about 80 mg/s to about 500 mg/s.

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Claim 54 (Previously presented): The niobium powder of claim 28, wherein said niobium powder has a BET surface area of from about  $1 \text{ m}^2/\text{g}$  to about  $10.0 \text{ m}^2/\text{g}$ .

Claim 55 (Previously presented): The niobium powder of claim 28, wherein said niobium powder has a shape which is flake, angular, nodular, or mixtures thereof.

Claim 56 (Previously presented): The niobium powder of claim 28, wherein said niobium powder has a shape that is nodular.

Claim 57 (Previously presented): The niobium powder of claim 28, wherein said niobium powder has a BET surface area of from about  $6 \text{ m}^2/\text{g}$  to about  $15 \text{ m}^2/\text{g}$ .

Claim 58 (Previously presented): The niobium powder of claim 28, wherein said niobium powder has an oxygen content of about 2,000 ppm or below.

Claim 59 (Previously presented): The niobium powder of claim 28, wherein said niobium powder has an oxygen content of from about 2,000 ppm to about 60,000 ppm.

Claim 60 (Previously presented): The niobium powder of claim 28, wherein said niobium powder further comprises phosphorous in the amount of less than about 400 ppm.

Claim 61 (Previously presented): The niobium powder of claim 28, wherein said niobium powder comprises nitrogen.

Claim 62 (Previously presented): The niobium powder of claim 28, wherein said niobium powder comprises nitrogen in an amount of at least 300 ppm.

Claim 63 (Previously presented): The capacitor anode of claim 31, wherein said anode has a capacitance of at least about 62,000 CV/g.

Claim 64 (Previously presented): The capacitor anode of claim 31, wherein said anode has a capacitance of at least about 70,000 CV/g.

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Claim 65 (Previously presented): The capacitor anode of claim 31, wherein said anode has a capacitance of from about 65,000 CV/g to about 250,000 CV/g.

Claim 66 (Previously presented): The capacitor anode of claim 31, wherein said anode is formed at a voltage of less than about 60 volts.

Claim 67 (Previously presented): The capacitor anode of claim 31, wherein said anode has a working voltage of from about 4 to about 16 volts.

Claim 68 (Previously presented): The capacitor anode of claim 31, wherein said anode has a DC Leakage of less than about 5.0 na/CV.

Claim 69 (Previously presented): The capacitor anode of claim 31, wherein said anode has a formation voltage of from about 50 to about 80 volts.

Claim 70 (Previously presented): The capacitor anode of claim 31, wherein said anode has a working voltage of from about 10 to about 20 volts.

Claim 71 (Previously presented): A hydrided niobium powder having a carbon content of from about 40 ppm to about 200 ppm and a iron, nickel, and chromium content of from about 5 ppm to about 200 ppm.

Claim 72 (Previously presented): The hydrided niobium powder of claim 71, wherein said carbon amount is from about 50 to about 150 ppm.

Claim 73 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder has a BET surface area of from about 1.0 m<sup>2</sup>/g to about 4.5 m<sup>2</sup>/g.

Claim 74 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder has a BET surface area of at least 0.15 m<sup>2</sup>/g.

Claim 75 (Previously presented): The hydrided niobium powder of claim 71, wherein said

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niobium powder further comprises oxygen, phosphorous, or both.

Claim 76 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder is agglomerated.

Claim 77 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder is agglomerated and has a Scott density of less than about 35 g/in<sup>3</sup>.

Claim 78 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder is unagglomerated and has a Scott density of less than about 12 g/in<sup>3</sup>.

Claim 79 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder has a flow of greater than 80 mg/s.

Claim 80 (Currently amended): The hydrided niobium powder of claim 71, wherein ~~after~~ ~~milling~~, the niobium powder has a flow of from about 80 mg/s to about 500 mg/s.

Claim 81 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder has a BET surface area of from about 1 m<sup>2</sup>/g to about 10.0 m<sup>2</sup>/g.

Claim 82 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder has a shape which is flake, angular, nodular, or mixtures thereof.

Claim 83 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder has a shape that is nodular.

Claim 84 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder has a BET surface area of from about 6 m<sup>2</sup>/g to about 15 m<sup>2</sup>/g.

Claim 85 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder has an oxygen content of about 2,000 ppm or below.

Claim 86 (Previously presented): The hydrided niobium powder of claim 71, wherein said

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niobium powder has an oxygen content of from about 2,000 ppm to about 60,000 ppm.

Claim 87 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder further comprises phosphorous in the amount of less than about 400 ppm.

Claim 88 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder comprises nitrogen.

Claim 89 (Previously presented): The hydrided niobium powder of claim 71, wherein said niobium powder comprises nitrogen in an amount of at least 300 ppm.

Claim 90 (New): The niobium powder of claim 30, wherein said niobium powder has an oxygen content of about 2,000 ppm or below.

Claim 91 (New): The niobium powder of claim 30, wherein said niobium powder has an oxygen content of from about 2,000 ppm to about 60,000 ppm.